World Health Organization

European Region

Rapid access to essential assistive technology for internally displaced people in Ukraine (AT10): lessons learned report

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Abstract

The "Rapid access to essential assistive technology for internally displaced people in Ukraine (AT10)" project was a WHO initiative, in partnership with the Ukrainian Ministry of Health, that took place in Ukraine starting in 2022, with funding from ATscale and the Ukraine Humanitarian Fund. Its aim was to establish rapid service delivery mechanisms to provide 10 products that assist mobility and self-care to support the population with existing or new assistive technology needs. A novel aspect of this project was that the provision of assistive technology was integrated in the emergency response. Service providers were trained to provide the 10 products using the WHO Training in Assistive Products programme. As of 31 March 2023, in the first phase of the project, 2458 assistive products had been provided by 10 health facilities in five oblasts [regions] in eastern Ukraine, meeting the assistive technology needs of 1485 people affected by the war. Through a process that was well coordinated, timely, acceptable to service users and sensitive to the challenges of the local context, the AT10 project met the assistive technology needs of the population and facilitated rehabilitation, community participation and ultimately community development. This report describes the lessons learned from this project and outlines recommended actions for future provision of assistive technology as part of the health emergency response.

Keywords

DISABLED PERSONS, EMERGENCY MEDICAL SERVICES, REHABILITATION, SELF-HELP DEVICES, UKRAINE.

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We extend our gratitude to ATscale and the Ukraine Humanitarian Fund for their continued commitment to assistive technology and rehabilitation and their catalyst financial support for implementing the AT10 project. Since then, other financial partners (Swiss Agency for Development and Cooperation; Ministry of Health, Germany; and the European Union Directorate-General for European Civil Protection and Humanitarian Aid Operations) have joined efforts with WHO to implement the AT10 project for the internally displaced population in Ukraine.

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Abbreviations

GAR	Group of Active Rehabilitation
GATE	Global Cooperation on Assistive Technology
IDP	internally displaced person
MAC	medical advisory committee
MSEC	medical and social expert commission
rATA	rapid Assistive Technology Assessment
SDG	Sustainable Development Goal
TAP	Training in Assistive Products
UNICEF	United Nations Children's Fund
5P	People, Policy, Products, Provision and Personnel

Executive summary

Purpose of the report

The purpose of this report is to present the AT10 project in Ukraine and inform future implementation by presenting the lessons learned from the first phase of this project (2022–2023). The objectives of this report are to:

1. present a brief background to assistive technology provision in Ukraine and an overview of the AT10 project;
2. present the design, delivery and outcomes of the AT10 project, mapping them against the three stages of the assistive technology pathway (seeking, obtaining and realizing);
3. highlight the benefits of the AT10 project at the individual, community and society levels; and
4. develop evidence-based recommended actions that can inform future provision of assistive technology in Ukraine and as part of the response to other health emergencies.

Background

The "Rapid access to essential assistive technology for internally displaced people in Ukraine (AT10)" project was a WHO initiative that took place in Ukraine, starting in 2022, in partnership with the Ukrainian Ministry of Health. Its aim was to establish rapid service delivery mechanisms to provide 10 products that assist mobility and self-care to support the population with existing or new assistive technology needs. Service providers were trained to provide 10 essential assistive products using WHO Training in Assistive Products (TAP). The AT10 project is aligned with the WHO European Framework for action to achieve the highest attainable standard of health for persons with disabilities 2022–2030, and in particular with objective 1 on universal health coverage and objective 3 on disability-inclusive response to health emergencies. It is also aligned with World Health Assembly resolution WHA71.8 on assistive technology. Implementation started in September 2022, products were delivered to health facilities by November 2022 and provision was ongoing at the time of writing this report (April 2023), with the initiation of a second phase. The AT10 project was made possible through the combined efforts of WHO, the ministries of health and social policy of Ukraine and local governments. The nongovernmental organization Group of Active Rehabilitation (GAR) played a crucial role in the referral of service users. Catalyst funding for phase 1 of the assistive products provision was provided by ATscale and the Ukraine Humanitarian Fund. For phase 2, other financial partners (Swiss Agency for Development and Cooperation; Ministry of Health, Germany; and the European Union Directorate-General for European Civil Protection and Humanitarian Aid Operations) have joined efforts with WHO to implement the AT10 project for the internally displaced population in Ukraine.

Main findings

The AT10 project met its objective of addressing the immediate assistive technology needs of service users affected by the war through the establishment of rapid service delivery mechanisms with trained personnel providing 10 essential assistive products. This was achieved despite the challenges of uncertainty, logistical difficulties and the time and infrastructure limitations of a developing and unpredictable health emergency in the context of an ongoing war. A novel aspect of this project was that the provision of assistive technology was integrated in the emergency response. As of 31 March 2023, in the first phase of the project, 2458 assistive products had been provided by 10 health facilities in five oblasts in eastern Ukraine, meeting the assistive technology needs of 1485 people.

The main strength of the AT10 project was that, through a process that was well coordinated, timely, acceptable to service users and sensitive to the challenges of the local context, assistive products were provided that met the needs of the population and facilitated rehabilitation, community participation and, ultimately, community development. While the project was initially designed to focus on internally displaced persons, it became evident that other groups of people affected by the war also had unmet assistive technology needs, for reasons including lost or damaged products or new injuries or conditions. Ultimately, the project met the assistive technology needs of a wide range of people, including internally displaced persons, returnees, people with disabilities and older people.

Table ES.1 outlines the main lessons learned in the first phase of the AT10 project, using the WHO-Global Cooperation on Assistive Technology (GATE) People, Policy, Products, Provision and Personnel (5P) assistive technology framework.

Table ES.1. Main lessons learned in the first phase of the AT10 project

People	• Enable universal provision for all people who can benefit from assistive technology • Develop clear guidelines about eligible service users • Conduct local needs assessment to consider the complexity of the context, including the presence of multiple functional limitations
Policy	• Ensure that the inclusion of assistive technology is a key element and a standard practice in the emergency health response • Ensure assistive technology systems inform rebuilding of health systems and are integrated in them, both during and also following health emergencies • Ensure there is a clear task allocation and line of accountability • Ensure there is a clear information policy, so that both service users and service providers are aware of assistive technology provision, how to access it and how to respond to any issues • Develop a repair service
Products	• Ensure the provision of products that respond to local needs • Ensure the provision of well designed products to aid acceptability and use uptake • Ensure the provision of appropriate range, type and size of products, in numbers that correspond to the needs of the population
Provision	• Build appropriate preparedness plans (including pre-positioning of assistive products) by relevant stakeholders to address disruption in procurement, delivery or distribution • Build contingency into the planned implementation timeline • Consider adding a mobile or home provision service (including delivery), especially for large items and/or for people living away from health facilities providing assistive products • Consider having a wide provision network, covering both urban and rural areas • Ensure provision takes place through well-respected institutions and organizations
Personnel	• Ensure service providers are appropriately trained and can select appropriate products • Ensure service providers have dedicated time allocated to assistive technology provision • Ensure service providers can demonstrate the use of products in various real-life settings • Ensure service providers can offer aftercare, including maintenance and repair • Ensure service providers provide a dignified and respectful service, as this increases service users' satisfaction, leads to more appropriate use and contributes to the programme's visibility and wider reputation • Ensure the availability of personnel to help with logistics, including receiving products, offloading the trucks delivering products to the receiving health facility, organizing the stock, locating, transporting and delivering products to service users

1. Introduction

The war in Ukraine has increased the demand for assistive technology, while at the same time reducing the supply of assistive products and services. As a result, people with the greatest health needs – including people with disabilities, older people and people with chronic diseases – face the largest barriers in accessing health care: a conflict-induced variant of the inverse care law (Armitage, 2022). Furthermore, internal displacement is common, with 854 000 internally displaced persons (IDPs) estimated to be in Ukraine as of January 2023 (International Organization for Migration, n.d.). In order to respond to the assistive technology needs of the population, WHO in close collaboration with the ministries of health and social policy of Ukraine and the Office of the President of Ukraine, developed and implemented the AT10 project. A novel aspect of this project was that the provision of assistive technology was integrated in the emergency response. The AT10 project aimed to facilitate rapid access to a range of 10 essential assistive technology products for people with mobility and self-care needs affected by the war.

The purpose of this report is to present the AT10 project in Ukraine and inform future implementation by presenting the lessons learned from this project. Its objectives are to:

1. present a brief background to assistive technology provision in Ukraine and an overview of the AT10 project;
2. present the design, delivery and outcomes of the AT10 project, mapping them against the three stages of the assistive technology pathway (seeking, obtaining and realizing);
3. highlight the benefits of the AT10 project at the individual, community and society levels; and
4. develop evidence-based recommended actions that can inform the future provision of assistive technology in Ukraine and form part of the response to other health emergencies.

2. Background

2.1 Assistive technology

Assistive technology is essential for people of all ages and with all types of functional difficulties or people who recover from an injury or surgery (WHO and UNICEF [United Nations Children's Fund], 2022). It is an umbrella term for assistive products and related systems and services and aims to support functioning in areas such as cognition, communication, hearing, mobility, self-care and vision. Assistive products include devices, equipment, instruments or software that can be used to maintain or improve an individual's functioning and independence, as well as preventing impairments and secondary health conditions (WHO and UNICEF, 2022). According to the International Organization for Standardization classification of assistive products, about 650 types of products exist for people who require assistive technology, including people living with chronic conditions, children, older people and people in humanitarian crises (International Organization for Standardization, 2022). See the image below for one such device, a manual wheelchair for children.

Manual paediatric wheelchair

Access to assistive technology is a fundamental human right (see United Nations, 1948) recognized in the Convention on the Rights of Persons with Disabilities (United Nations, 2006). It is also a prerequisite for the achievement of the objectives both of the *WHO European Framework for action to achieve the highest attainable standard of health for persons with disabilities 2022–2030* (WHO Regional Office for Europe, 2022a, 2022b) and of the United Nations Sustainable Development Goals (SDGs), particularly SDG 1 (no poverty), SDG 2 (zero hunger), SDG 3 (good health and well-being), SDG 4 (quality education), SDG 8 (decent work and economic growth) and SDG 10 (reduced inequalities). Furthermore, it constitutes a key component of universal health coverage. The benefits of assistive products go beyond the individual and extend to the community and society level, as outlined in Table 1.

Due to an ageing population and the rise in the prevalence of noncommunicable diseases worldwide, the need for assistive technology is expected to increase. Currently, approximately 2.5 billion people need assistive technology globally, with this number expected to rise to 3.5 billion by 2050 (WHO and UNICEF, 2022). However, many people in need of assistive technology do not have access to it. Box 1 provides an overview of the barriers to accessing assistive technology.

Manual paediatric wheelchair

Box 1. Barriers to accessing assistive technology

Barriers to accessing assistive technology include the following:

- lack of information on the types and availability of assistive products;
- high costs due to expensive or over-priced assistive products and associated service delivery;
- limited physical and geographical access to assistive products;
- inadequate product range, quantity, quality or suitability;
- procurement and delivery challenges;
- shortage of workforce with adequate knowledge on assistive technology and general lack of trained personnel at all levels of health and social care;
- lack of legislation covering people with all types of functional difficulty;
- lack of funding for the strengthening of national assistive technology systems;
- fragmentation of the assistive technology sector;
- market barriers, trade tariffs and restrictive policies restricting access and affordability; and
- sociodemographic barriers hindering equitable universal access to assistive technology.

Source: WHO and UNICEF (2022).

Access to assistive technology varies significantly between and within countries (WHO and UNICEF, 2022). The importance of assistive technology is often overlooked in health and development agendas, resulting in unmet health-care needs, especially during humanitarian crises. The WHO-Global Cooperation on Assistive Technology (GATE) People, Policy, Products, Provision and Personnel (5P) framework for strengthening access to assistive technology provides insights into the types and severity of barriers that people may encounter in their effort to access and use assistive products (WHO and UNICEF, 2022). The assistive technology access pathway emphasizes that people need to first identify and know how to find appropriate assistive products ("seeking" stage), access and receive the products ("obtaining" stage) and realize their rights and goals ("realizing" stage).

Table 1. Benefits of assistive technology at individual, community and society levels

Levels	Aspects	Benefits
Individual level 	Well-being	Improved self-esteem and motivation to pursue life goals, participation in society and community life, improved social relationships
	Health	Ability to perform daily activities, better access to health centres and services, improved functional ability through physical activities, leisure and sports, improved mental health
	Education	Better access and inclusion in all education levels, better employment prospects, increased social interaction
	Employment	Employment participation, raised household income, reduced poverty levels
Community level 	Well-being	Improved social relations, increased participation in social and community activities, increased benefits for all from enabling environments
	Health	Better community health, increased independence
	Economy	Greater contribution to family income and development of communities, reduced risk of poverty, reduced time and need of caregivers
Society level 	Cohesion	Improved social relations, increased trust and confidence, more participatory society
	Economy	More productive workforce, increased household consumption, reduced welfare costs, economic growth
	Health	Improved health outcomes, reduced health-care costs, reduced need for informal care and costs of formal care
	Employment	Increased employment opportunities
	Development	Economic development, contribution towards the achievement of the SDGs

Source: Authors' own elaboration, with information from WHO and UNICEF (2022).

Considering the scale of unmet assistive technology needs globally, WHO launched the Training in Assistive Products (TAP) learning programme[1] in November 2022. The TAP programme includes interactive online modules, downloadable materials and resources and online discussion forums, combined with face-to-face learning coordinated locally with support from local mentors. TAP aims to equip health-care personnel with the necessary knowledge and skills to provide selected assistive products and referral for more complex products and other services. TAP supports the effective provision of assistive technology in four steps: assessment, fitting, user training and follow-up. The online platform is designed to provide specific modules on assistive products under six streams: cognition, mobility, communication, vision, hearing and self-care.

1 TAP can be accessed at https://www.gate-tap.org.

2.2 Assistive technology in humanitarian crises

A humanitarian crisis is "an event or series of events representing a critical threat to the health, safety, security or wellbeing of a community, usually over a wide area" (WHO, 2007). Humanitarian crises include events such as natural disasters, public health emergencies, human-made and technological disasters, armed conflicts and wars, as well as other types of emergency including famine or large movements of people within or outside a country. If not adequately addressed in a timely manner, such crises may cause or prolong human suffering, weaken resilience and delay recovery and stability, and may have a severe adverse effect on health systems through the destruction of important infrastructure, impact on the workforce and increased health needs.

Assistive technology should be a major component of the humanitarian response because, if it is lacking, this may create access barriers to other services (Inter-Agency Standing Committee Task Team on Inclusion of Persons with Disabilities in Humanitarian Action, 2019). In humanitarian crises, the number of people requiring assistive products increases significantly, since people may acquire an injury or impairment during the crisis, they may have lost or damaged their assistive products, or they may have unaddressed assistive technology needs that predate the crisis. This is particularly the case for people with disabilities, people with chronic conditions, women, migrants and older people, and when services are inaccessible and not inclusive (Funke and Dijkzeul, 2021; Sheppard et al., 2018).

Crises increase the strain on existing health-care systems that, in the face of an emergency, typically focus more on trauma care than on meeting needs resulting from chronic conditions, including rehabilitation and assistive technology. Therefore, the type, complexity, magnitude and duration of a humanitarian crisis has a direct impact on the need for and supply of assistive technology (WHO and UNICEF, 2022). The COVID-19 pandemic, for instance, has led to an increase in unmet assistive technology needs worldwide owing to disruptions of supply chains, physical distancing requirements and strains on health care, education and other systems (WHO and UNICEF, 2022).

Barriers to assistive technology in non-crisis contexts include a lack of knowledge of products and services available, stigma and discrimination, financial barriers and limited or inaccessible transportation. In addition to these barriers, provision of assistive technology in health emergencies and humanitarian crises is impacted by several other barriers. These are illustrated in Box 2.

Armed conflicts and wars can lead to large numbers of people requiring assistive products, because of injuries and, particularly in the case of people fleeing conflict, because of their need to replace products left behind and to enable evacuation and/or onward travel (WHO Regional Office for Europe, 2022c). Assistive products are essential for comprehensive health care for displaced people, as well as medicines and other medical supplies. Barriers to the provision of assistive products and services, especially during war, can lead to higher mortality and morbidity rates and worse health outcomes, including those for mental health, resulting in a serious public health problem. The situation is further aggravated by security concerns, infrastructure damage or destruction, lack of financing – as this is often diverted to other sectors that are considered more critical – and lack of effective assistive technology manufacturing and provision. Internationally agreed guidelines, such as the Sphere standards (Sphere, 2018), the Inter-Agency Standing Committee Guidelines on inclusion of persons with disabilities in humanitarian action and the WHO Classification and minimum standards for emergency medical teams (WHO, 2021a), call for the inclusion of rehabilitation and assistive technology from the onset of a war, stressing its role in improving health service efficiency and short- and long-term patient outcomes (WHO Regional Office for Europe, 2022c).

Box 2. Barriers to accessing assistive technology during humanitarian crises

Barriers to accessing assistive technology may include:

- inability to use assistive products among people with pre-existing functional difficulties, owing to damage to assistive products or lack of electricity or the Internet;
- compromised transport due to infrastructure damage;
- reduction/unavailability of trained personnel;
- challenged procurement and provision systems;
- reduced access to available services due to restricted movement between areas on account of security concerns; and
- low levels of awareness of functional difficulty, rehabilitation and assistive technology among emergency medical teams and other humanitarian actors.

Source: WHO and UNICEF (2022).

2.3 Assistive technology in Ukraine

Ukraine benefits from a well-established assistive technology sector. Since 2017, rehabilitation and assistive technology services have been rapidly developing and expanding, with national associations strengthened and greater representation of rehabilitation services within acute care (WHO Regional Office for Europe, 2022c).

Rehabilitation and assistive technology in Ukraine are considered primarily services for persons with certified disability ("persons with invalidities", according to official Ukrainian terminology). The responsibility for the implementation of the State model programme of rehabilitation for people with disabilities lies with the Ministry of Social Policy (Cabinet of Ministers of Ukraine Order No. 1686, 8 December 2006, "On approval of the State standard program of rehabilitation of persons with disabilities", with amendments). The Ministry of Social Policy oversees the coordination and control of rehabilitation and assistive technology, in collaboration with the Ministry of Health, Ministry of Education and Science, Ministry of Youth and Sports and Ministry of Culture. Only persons with certified disabilities[2] can qualify for State-funded assistive products. Some exceptions include people injured during humanitarian crises, as well as children, military veterans, veterans of the State fire protection service and older people, who can receive assistive products irrespective of their disability status (as per article 4 of the Law of Ukraine No. 2961-IV, 6 October 2005, "On rehabilitation of persons with invalidity in Ukraine"). As of December 2019, 620 763 persons were registered with the Ministry of Social Policy as being eligible for assistive technology (WHO Regional Office for Europe, 2021).

People with certified disabilities have access to a wide range of assistive products free of charge and they can choose a provider from the many certified assistive technology providers (WHO Regional Office for Europe, 2022c). On the other hand, one of the main weaknesses of the assistive technology system in the country is that the ministries work independently of one another, developing parallel systems, that often lead to longer delays, duplicated efforts and increased bureaucracy. Furthermore, the system caters primarily for persons with certified disabilities, thus excluding other groups who need assistive products. Also, many products on the market are of low quality and provided without adequate training in their use, or follow-up, with rehabilitation services separated from assistive product provision. There are also few assistive technology professionals trained to international standards (WHO Regional Office for Europe, 2021).

WHO carried out a household survey regarding assistive technology needs in Ukraine in April–June 2021. The rapid Assistive Technology Assessment (rATA; WHO, 2021b) is an interviewer-administered survey tool to assess the need and demand for assistive technology, as well as supply and satisfaction among its users. The survey, which included 7125 respondents, revealed that 12.1% of the population need at least one assistive product other than spectacles and that 4.8% have an unmet need for at least one product other than spectacles, with the majority identifying cost as a barrier to accessing assistive technology (WHO Regional Office for Europe, 2021).

The war in Ukraine has debilitated existing services, while creating additional rehabilitation and assistive technology needs across the country. While even before the war there were challenges to the provision of rehabilitation and assistive technology, such challenges have now increased. A technical support mission to Ukraine that took place in July–August 2022 revealed the following barriers and needs:

- limited workforce – both in number and skills – that cannot be addressed through donations of equipment or short-term training courses;
- existing regulations and policies hinder the provision of assistive products during and after the acute rehabilitation phase, due to the Ministry of Social Protection and Ministry of Health funding separation, often leading to patients being discharged without assistive products or needing to make out-of-pocket payments;
- absence of standardized rehabilitation referral pathways for specialized rehabilitation (including for prosthetics and orthotics);
- lack of outpatient and community level services;
- low awareness of rehabilitation and high dependence on Soviet-era modality-based interventions in some centres;

2 People in Ukraine must obtain a disability certificate to be eligible for services. Certified disability ("invalidity") status in Ukraine is determined by medical commissions: medical and social expert commissions (MSECs) focusing on adults and medical advisory committees (MACs) focusing on children. Determination is based on the individual's history, medical documentation, physical examination and other tests. The 10th edition of the International Classification of Diseases is used extensively by MSECs and MACs, while the International Classification of Functioning, Disability and Health is not yet used in determining disability status (WHO Regional Office for Europe, 2021).

- focus on high-intensity, neuro-focused inpatient rehabilitation, and exclusion from rehabilitation services of people with other conditions;
- provision of support by rehabilitation partners in northern and western regions, but gaps remain in southern and eastern regions, as well as in Kyiv and in the east of the central region;
- limited access in several areas including Kharkiv, Mykolaiv, Odessa and Zaporizhzhya due to the evolving security situation;
- major needs related to burns, spinal cord injury and complex limb injury, but limited highly-specialized rehabilitation services;
- concern over military casualties requiring rehabilitation and their access to modern rehabilitation services;
- urgent need to consider the rehabilitation needs of returning medical evacuation patients; and
- need to consider rehabilitation for children as part of service mapping and rehabilitation referral pathway development (WHO Regional Office for Europe, 2023).

In response to the health emergency resulting from this humanitarian crisis, WHO elaborated two priority assistive product lists to support mobility and self-care:

- AT6: six assistive products (elbow crutches, axillary crutches, walking frames, walking sticks, wheelchairs for hospital transportation and toilet/bath chairs) to support acute trauma care; and
- AT10: 10 assistive products to support the needs of IDPs.

3. The AT10 project

The AT10 project aimed to facilitate rapid access to essential assistive technology for people with mobility and self-care needs who have been internally displaced by the war in Ukraine. The project represents a milestone in crisis situations, as it is the first time assistive technology has been integrated into the emergency response, with the AT10 kits deployed alongside other health emergency kits.

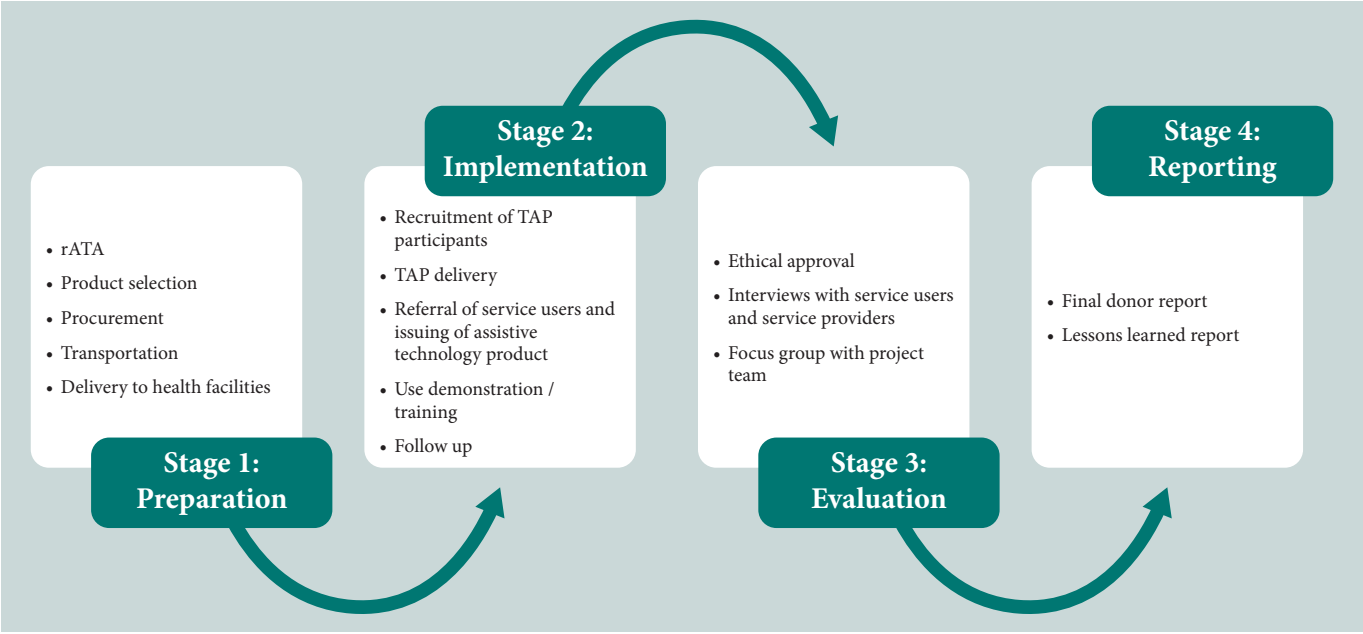
Its objective was for IDPs in Ukraine to have their immediate assistive technology needs met through the establishment of rapid service delivery mechanisms in the rehabilitation departments of hospitals,[3] with trained personnel providing assistive technology from a list of 10 essential assistive products. The AT10 project is aligned with the *WHO European Framework for action to achieve the highest attainable standard of health for persons with disabilities 2022–2030* (WHO, 2022a), and in particular with objective 1 on universal health coverage and objective 3 on disability-inclusive response to health emergencies (Regional Committee for Europe, 72nd session (2022)).

Fig. 1 outlines the process of the AT10 project with its different stages, which overlapped to some extent.

According to the initial project implementation plan, the four expected outcomes were as follows:

1. TAP for a minimum of 80 service providers from hospital rehabilitation departments, so that they could acquire the necessary skills to provide assistive products;
2. training of 19 mentors to support the training of service providers;
3. supply of five AT10 kits, with a total of 3900 assistive products provided at 10 locations (two health facilities in each of the selected five oblasts); and
4. provision of assistive products for 3900 internally displaced people.

Fig. 1. Stages of the AT10 project



rATA: rapid Assistive Technology Assessment; TAP: WHO Training in Assistive Products.

WHO headquarters, the WHO Regional Office for Europe and the WHO Country Office for Ukraine, together with the Ministry of Health of Ukraine, collaborated in this project. WHO headquarters was responsible for technical advice and procurement. The WHO Regional Office for Europe was responsible for project management, technical support, monitoring and evaluation and reporting, while the WHO Country Office was responsible for implementation. The Ministry of Health was responsible for implementation including coordination and communication with the participating health facilities. The funders of the assistive products were ATscale (two kits) and the Ukraine Humanitarian Fund (three kits).

3 Multiprofile hospitals, addressing acute needs related to several health conditions.

The AT10 project was implemented in close collaboration with the Ministry of Health, the Ministry of Social Policy and local governments, and the nongovernmental organization Group of Active Rehabilitation (GAR). GAR together with IDP centres played a crucial role in the referral of service users.

The project established and/or strengthened assistive technology provision in five oblasts that were considered departure and/or arrival points for IDPs. These oblasts were: Chernihiv, Dnipro, Kyiv, Sumy and Zaporizhzhya (Fig. 2).

Fig. 2. Map of Ukraine

Source: Ukraine Profile Map, Map No. 3773 Rev. 6 March 2014, United Nations. Reproduced with permission

In each oblast, 1–3 health facilities were identified for the provision of AT10 products, for a total of 12 participating health facilities. This included paediatric health facilities in Dnipro, Kyiv and Zaporizhzhya to provide paediatric wheelchairs and elbow crutches. Two health facilities were unable to participate owing to a lack of capacity (Kyiv) or the escalation of military activities in the region (Zaporizhzhya). In total, 10 health facilities participated in the project; these were located in Bila Tserkva and Kyiv cities (Kyiv oblast), Chernihiv city (Chernihiv oblast), Dnipro city and Slobozhanske town (Dnipro oblast), Sumy city (Sumy oblast) and Zaporizhzhya city (Zaporizhzhya oblast).

The participating health facilities provided service users with essential mobility and self-care assistive products and services and onward referral, as needed. Availability of services was advertised through mainstream communications channels and networks of people with disabilities or older people. A local coordinator appointed by the Ministry of Health oversaw the implementation, including coordination and communication with the participating health facilities.

The project provided 10 essential mobility and self-care products. Table 2 presents the AT10 products in each AT10 kit.

Service providers received training through the TAP programme. A minimum of one mentor[4] at each health facility oversaw the training, supported by the coordinator. The TAP platform and all relevant materials, including user information sheets, were translated into Ukrainian. As the AT10 project focused on the provision of assistive technology in the context of an ongoing war, a module was developed to cover the provision of wheelchairs in emergencies. Fig. 3 shows the homepage of the TAP website in Ukrainian.

4 Mentors were health professionals – mostly service providers, but also educators and service managers – with relevant skills who helped those taking TAP to understand, complete and use the TAP training in practice.

Table 2. AT10: assistive products per AT10 kit

	AT10: Priority assistive products for IDPs	Number of products per kit
1	Crutches, elbow, pair	84
2	Crutches, axillary, pair	16
3	Walking stick	300
4	Walking frame	80
5	Pressure-relief cushions	included with wheelchairs
6	Wheelchair, manual, assistant-controlled	60
7	Wheelchair, manual, for active use	35
8	Catheter kits (3-month supply)	35
9	Toilet and shower chairs, static	70
10	Absorbent continence products, single use (3-month supply)	100
	Total	**780**

Fig. 3. TAP homepage in Ukrainian[5]

Навчання безпечному та ефективному забезпеченню допоміжними засобами

Допоміжні засоби такі як милиці, слухові апарати, окуляри для читання та крісла для туалету є предметами першої необхідності для

5 Translation of text in English: Training in safe and effective provision of assistive products. Assistive products such as crutches, hearing aids, reading glasses and toilet chairs are essential items for many people. These online modules aim to equip community-level personnel working in any context to safely and effectively provide a range of simple assistive products.

4. Methodology

This report is based on a mixed-methods design, incorporating qualitative, quantitative and documentary methods, using several data collection tools. Using both methods and data triangulation ensured rigour, allowing an in-depth exploration of the AT10 project from multiple perspectives that involved all relevant stakeholders. Ethical approval was secured in Ukraine (Ethics Commission, Public Health Centre of the Ministry of Health IRB2022-79) and with the WHO central ethics committee (WHO Research Ethics Review Committee ERC.003859). All informants provided written informed consent for participation, and confidentiality was maintained at all times. Fig. 4 illustrates the methodology.

4.1 Data collection

This report is based on information received by several informants involved in the AT10 project, including:

1. service providers
2. service managers
3. service users
4. WHO project team members.

Data collection tools included the following.

4.1.1 Surveys completed by learners and mentors on the TAP platform

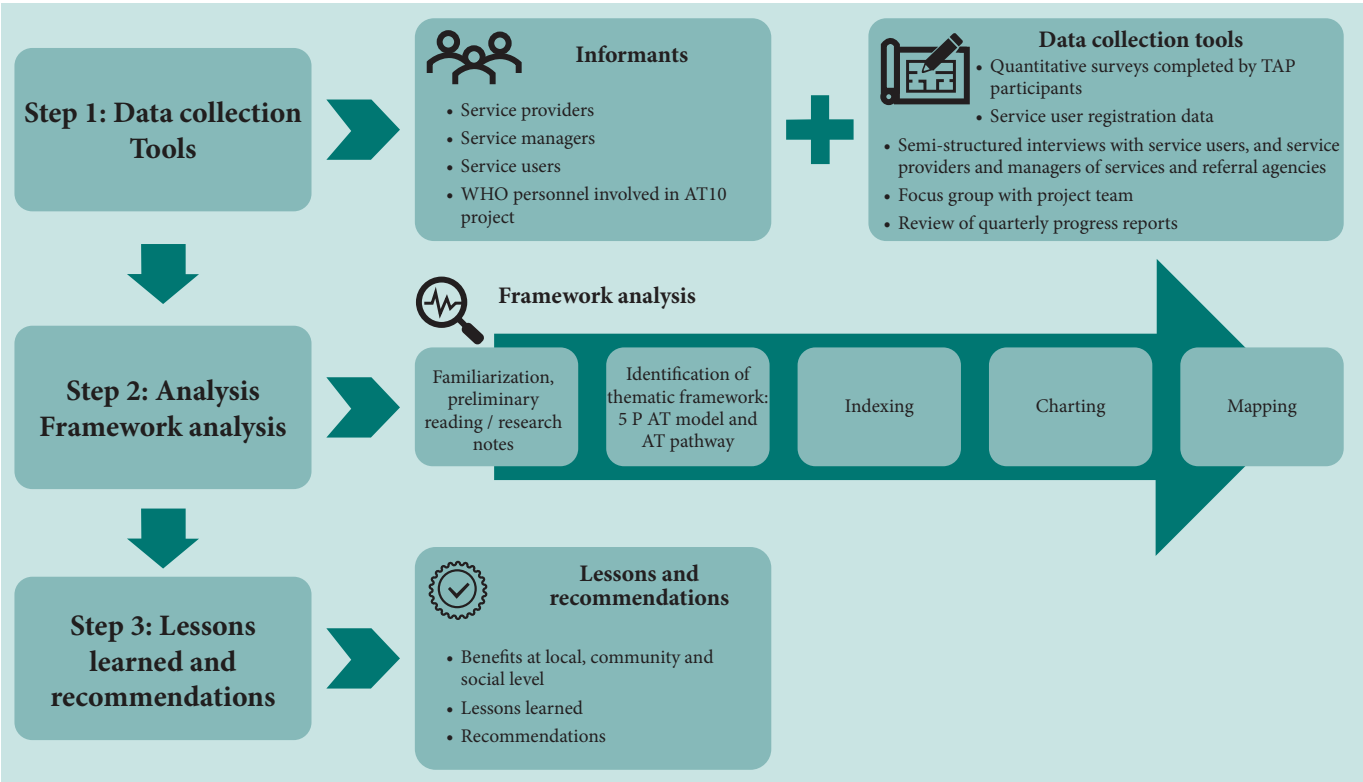
Learners and mentors completed a short registration form and a longer enrolment survey on the TAP platform. The enrolment survey gathered demographic and descriptive characteristics, such as educational background, years of professional experience and previous assistive technology experience. Mentors and learners were also asked for their perspective on the integration of assistive technology into their service and the most important interventions, resources or supports needed for this to be successful.

Between September and December 2022, 95 people (20 mentors and 75 learners) registered on the TAP platform and completed relevant modules. The enrolment survey was completed by 83 people (65 learners and 18 mentors).

4.1.2 Service user registration data

The participating health personnel gathered data from all service users receiving an assistive product and/or referral to other services as part of the AT10 project. This included 1030 people who received assistive products or referrals in the period 9 November–31 December 2022. The data collected included demographic characteristics (age, gender), contact information (for clinical follow-up or follow-up for interview,

Fig. 4. Methodology employed to evaluate the AT10 project



AT: assistive technology; TAP: WHO Training in Assistive Products; 5P: People, Policy, Products, service Provision and Personnel.

where consent was provided), type of product(s) provided and whether a referral was made to other services.

4.1.3 Semi-structured interviews with service users, service providers and managers of services and referral agencies

Semi-structured in-depth interviews explored the perspectives of different stakeholders on the AT10 project. These interviews were carried out in Ukrainian, either in-person or by telephone, depending on the informant's preference.

4.1.4 Focus group with the project team members

One focus group session took place with the project team, including the project coordinator, after over half of the AT10 project products procured had been supplied to users. The focus group explored barriers and facilitators to implementation. The focus group was facilitated over Zoom in Ukrainian, with simultaneous translation into English.

4.1.5 Review of project documents

Weekly project meeting notes, quarterly progress reports and other relevant documents were reviewed. This enabled a comprehensive understanding of (a) how the project was designed and (b) what modifications were made as the project progressed.

Table 3 summarizes the different data collection tools.

4.2 Analysis

Framework analysis was used to analyse the entire data set. This method is often used in applied qualitative research with the aim of influencing policy (Ritchie and Spencer, 1994). We developed a thematic framework from existing literature and informed by the data, to identify commonalities and differences in data, and then focused on establishing patterns in the data. The analysis involved the following five steps.

1. Familiarization, preliminary reading/research notes: we read the data set and the related literature on assistive technology provision, especially in the context of humanitarian crises.
2. Identifying a thematic framework: we began the process of abstraction and conceptualization. We developed a framework based on the WHO-GATE 5P assistive technology framework (Table 4) and the three stages of the assistive technology pathway (seeking, obtaining and realizing). Fig. 5 illustrates the thematic framework we developed from the synthesis of the different recommendations.
3. Indexing: we applied the thematic framework to the entire data set, looking for information for each of the areas, while carefully considering whether any adjustments needed to be made to the framework based on the data.
4. Charting: we extracted from the sources information that was relevant and inserted it into a matrix based on the thematic framework.
5. Mapping: we looked for patterns across the data set, focusing on barriers and facilitators to assistive technology provision and recommended actions for future application.

Table 3. Data collection methods

Data collection tool	Type of data produced	Objective	Recruitment/selection
TAP platform surveys	Tabulated data/ descriptive statistics	Collect demographic and descriptive characteristics, perspective on training and quiz scores to assess knowledge	95 (75 learners and 20 mentors).
Service user registration survey	Tabulated data/ descriptive statistics	Gain information regarding basic demographics (name, age, gender), contact information (for follow-up only where consent given), whether the person was internally displaced, what product has been provided, and whether a referral has been made to another service	1030 people who received an assistive product and/or referral to other services by 31 December 2022 and who gave informed consent to participate in the study.

(Continued)

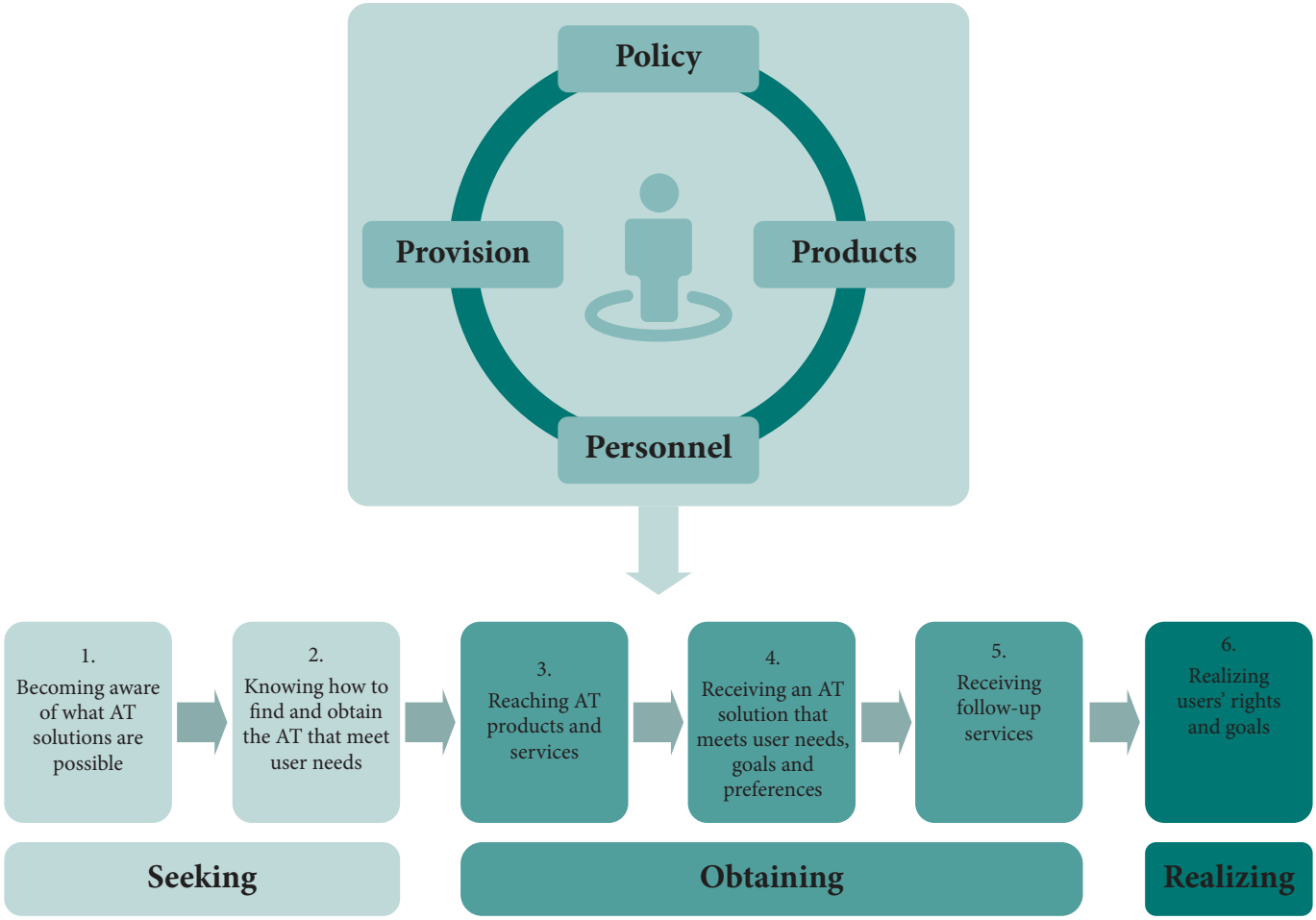
Table 3. ***(Continued)***

Data collection tool	Type of data produced	Objective	Recruitment/selection
Semi-structured interviews	Transcripts	Gain an in-depth understanding of the experiences of both providers and service users	Providers: 15 service providers and managers, including managers of referral agencies (up to three respondents from each oblast); selection was made by a member of the study team not based in Ukraine, who did not know the learners or mentors. Users: 10 service users (two from each oblast) were invited to participate in follow-up semi-structured interviews; these 10 service users were selected by the project coordinator from the service user registration data. The sample included at least one man and one woman from each oblast, at least two children, adults and older persons (over 60 years), and at least two wheelchair recipients, two walking-aid recipients, two toilet- and shower-chair recipients, two catheter- and/or absorbent products recipients.
Focus group	Transcripts	Gather learning from the AT10 project including barriers and facilitators to implementation in an emergency context	Project team, including the project coordinator.
Documentary analysis	Project documents	Explore how the project was designed and how plans developed during the project	Weekly project meeting notes, quarterly progress reports, concept note, implementation plan, monitoring and evaluation plan.

Table 4. The WHO-GATE 5P assistive technology framework

Area	Explanation
People	Service users, who are at the centre of the assistive technology process
Policy	Legislation, governance, finance, coverage, procedure, information systems
Products	Procurement, quality, distribution
Provision	Referral, assessment, selection, follow-up, maintenance and repair
Personnel	Providers and their professional development

Fig. 5. Thematic framework



AT: assistive technology.

5. Project outcomes

"I think it will even help me in my recovery. Getting into my yard using a wheelchair feels completely different as compared to being locked in my house and only looking out the window. My wife is growing flowers, everything blooms, we have a vegetable garden. I have rabbits, I have chickens. I can go to the barn to look at them. It psychologically affects the recovery process. And then, I will become able to move my hand more. And the leg will start bending at the knee, and I think that the functional capabilities will increase for me in this regard."

AT10 project service user

As the quotation by the service user above indicates, the provision of assistive products that meet the needs of people can have a significant impact on functional ability, quality of life, health outcomes and ultimately on social participation, empowering them to engage in their local communities.

The AT10 project achieved its objective of meeting immediate assistive technology needs through the establishment of rapid service delivery mechanisms with trained personnel providing 10 essential assistive products. This was achieved despite the challenges due to the uncertainty, logistical difficulties and time and infrastructure limitations of a developing and unpredictable health emergency in the context of an ongoing war.

The main strength of the AT10 project was that, through a process that was well coordinated, timely, acceptable to service users and sensitive to the challenges of the local context, assistive products were provided that met the needs of the population and facilitated rehabilitation, community participation and ultimately community development.

This section of the report will discuss the outcomes of the project and present the project's benefits at the individual, community and society levels. It will also provide an overview of the project's enabling factors and barriers according to the three stages of the assistive technology pathway (seeking, obtaining and realizing) and the WHO-GATE 5P framework for assistive technology systems strengthening. The Annex presents more detailed information about the project implementation.

As of March 2023, five AT10 kits with a total of 3900 assistive products had been delivered to the WHO warehouse in Kyiv and distributed to the participating health facilities in the five oblasts, while 95 AT10 providers (75 learners and 20 mentors) were trained (using TAP) and mobilized to provide safe access to assistive products. Product procurement and

distribution to health facilities was completed by November 2022, while provision was ongoing as of April 2023. Table 5 outlines the achieved project outcomes compared with the outcomes projected in the implementation plan. The two areas where significant variation is observed are the type and number of service users.

Regarding the type of service users, while initially the focus of the project was on IDPs, it became evident that other groups of people affected by the war also had unmet assistive technology needs, for reasons including damaged products or new injuries. Ultimately, a wide range of people obtained assistive products, including returnees, people with disabilities and other people with unmet assistive technology needs.

Regarding the number of service users, it was originally anticipated that each service user would receive one product. However, several service users had multiple unmet needs, requiring the provision of more than one product, hence the number of products distributed is greater than the number of users.

Table 5. Projected and achieved project outcomes

Outcome area	Projected outcomes according to the implementation plan	Achieved outcomes
Number of learners trained	80 learners	75 learners registered (65 completed the enrolment survey)
Number of mentors trained	19 mentors	20 mentors (18 completed the enrolment survey)
Number of AT10 kits	5 AT10 kits	5 AT10 kits
Products in each AT10 kit	780 products per kit	780 products per kit
Country regions	5 oblasts, with 1–3 participating facilities in each	5 oblasts, with 1–3 participating facilities in each
Products procured and delivered to health facilities	3900 products	3900 products
Products supplied to service users	Not specified in the implementation plan	2458 products (as of 31 March 2023)
Service users	IDPs	IDPs, returnees, and other people with assistive technology needs
Number of people benefiting	3900 people	1485 people (as of 31 March 2023)

5.1 Benefits

> *"If we take the importance of barrier-free accessibility for a child, we immediately teach them to use a walker or something else during rehabilitation. It is very important to teach them right away. Imagine if a child received a walker from a social service and just left. And then you must look for someone to teach them [how to use their walker]. But if the child goes through a rehabilitation process with us, it lasts 14 days, and even longer for the little ones. And we immediately provide these assistive technologies, we teach them how to use them. You must work with it specifically. Different surfaces, stairs, ramps. We practice all this, what the child will use in life. And then leaving rehabilitation with this skill will give the child a chance to develop themselves in society barrier-free."*
>
> AT10 project service provider

As the quote above by a service provider indicates, the project had benefits at various levels, which were mutually reinforcing and ultimately led to better health outcomes and improved social participation. The project rendered important benefits at the individual, community and societal level, as outlined in Fig. 6.

Data from both service providers and service users indicate that the AT10 project had an important impact on service users' independence, health outcomes, quality of life and ultimately on their social participation, leading to a reduced need for care, which also brought benefits for the broader community. Important benefits were also obtained at the societal level, with perhaps the most important one being increased trust in the State and State institutions, exemplified by a quote by a service provider who mentioned that, thanks to this project, service users see Ukraine as a "State that cares about its citizens".

Fig. 6. Project benefits

Individual level	Community level	Society level
		
• Increased social participation • Facilitating access to education and employment • Improved ability to perform daily activities, contributing to functional independence • Promoting the rights of people with disabilities • Increased motivation to engage in rehabilitation • Better quality of life	• Reduced need for direct care, with family members able to engage in other activities (e.g. paid employment) • Reduced risk of poverty • Visibility of disability leading to less stigma and discrimination • Contribution to more inclusive and accessible social and physical environments	• Improving the image of Ukraine as a "State that cares about its citizens" • Offering an important aspect of rehabilitation services, leading to better health outcomes • Increased awareness of the importance of rehabilitation • Increased trust towards the health-care system, making people more likely to utilize it • Increased employment and education opportunities • Social inclusion, leading to an inclusive society, benefiting everybody

Source: Authors' own elaboration.

5.2 Enabling factors and barriers

While the AT10 project was successful in achieving its goals, it is important to highlight the enabling factors as well as the barriers that needed to be overcome to ensure efficient project implementation. An understanding of these will be useful for the effective implementation of future assistive technology projects in emergency situations.

The project team created an enabling environment, which facilitated the implementation of the AT10 project and led to a positive experience for service users. The team also encountered several barriers. Table 6 presents an overview of enabling factors and barriers in each stage of the project, according to the WHO-GATE 5P framework for assistive technology systems strengthening and the three stages of the assistive technology pathway. Stage 3, "realizing", only gives recommendations, as the project had not entered that stage by the time this evaluation was completed (April 2023).

Table 6. Overview of enabling factors and barriers

STAGE	Phase		People	Policy	Products	Provision	Personnel
STAGE 1: SEEKING	**Becoming aware**	**Enabling factors**			• Data obtained from the rATA national survey completed in 2021 helped describe assistive technology needs and plan appropriately		• TAP training was positively evaluated by the service providers: they felt prepared to assess, fit, offer user training and follow up the provision of assistive products
		Barriers					• Information, practice and mentoring on assistive product provision was not always adequate
	Knowing how to find and obtain	**Enabling factors**	• There was wide dissemination of information regarding services via social media	• Establishing a mechanism for assistive technology provision system and securing available funding were considered very important			• Service providers with specialized knowledge were already working in most selected health facilities
		Barriers	• Access to information was sometimes limited, especially for people not using social media				• Information on the services available was sometimes limited, especially for service providers not involved with the programme
STAGE 2: OBTAINING	**Reaching**	**Enabling factors**				• Both accessing services and receiving products were seen as straightforward and well coordinated	

(Continued)

Table 6. ***(Continued)***

STAGE	Phase		People	Policy	Products	Provision	Personnel
		Barriers		• There were concerns that the provision network was limited, with the focus on urban areas rather than rural areas		• Provision network was limited • There was lack of labelling on some boxes, so service providers did not always know the exact contents • In some health facilities assistive products were not stored properly owing to limited storage space	• Increased workload negatively affected service providers' participation in the project
	Receiving	**Enabling factors**	• Service users received appropriate training, signposting and follow-up if something went wrong • Service users were not required to have a disability certificate to receive assistive technology as part of this project	• Users perceived limited bureaucracy, which reduced access barriers, especially for service users who had lost their documentation • Real-time information on product stock held by each health facility made it possible to share assistive products between facilities located in the same city	• Products were well-designed and of good quality, which contributed to acceptability and ultimately to user uptake • Products were modifiable (i.e. adjustable by the provider)	• Referrals to other services were mainly interconnected • Provision was well coordinated • Products were in stock at the health facilities leading to swift provision • Receiving products through health facilities was seen as beneficial, owing to the perceived low corruption of these institutions leading to increased trust	• Personnel treated service users with respect and dignity • Personnel applied clinical reasoning to decide who would benefit from the available products and who would not benefit

(Continued)

Table 6. ***(Continued)***

STAGE	Phase		People	Policy	Products	Provision	Personnel
		Barriers	• Service users had multiple needs, often necessitating the provision of more than one product • Some service users faced barriers reaching provision sites or transporting assistive products to their home		• The list of assistive products was set and the range and number of assistive products could not be adapted	• Training was not always provided for service users, but users reported they had access to information, should they need it • Locating and delivering assistive products was challenging for both service providers and service users • Guidelines regarding eligible service users were not always clear, leading to inappropriate requests, both by potential service users and by nongovernmental organizations • Occasional confusion of assistive technology with humanitarian aid rather than as a health service, leading to unrealistic expectations and access claims irrespective of need	• Personnel had to manage the additional workload of assistive technology provision alongside their existing duties • Stock storage and management processes sometimes added to service providers' workload, as they had to locate assistive products amongst a large number of assistive products in storage
	Follow-up	**Enabling factors**			• Products were adjustable • Products were of good quality and durable	• Servicers were interconnected and service users received referrals to other services as needed	• Service providers were available to offer more information • Service providers were available to advise regarding maintenance and repairs

(Continued)

Table 6. *(Continued)*

STAGE	Phase	People	Policy	Products	Provision	Personnel
	Barriers	• Service users appeared to depend on a mix of formal and informal networks for follow-up support, which might disadvantage service users without access to both networks				
STAGE 3: REALIZING	**Recommendations**	• Provide clear guidelines about who is an eligible service user	• Develop a repair centre • Extend programme to district and rural hospitals	• Adapt range, number and size of products to meet ongoing and evolving needs • Provide each facility with detailed list of assistive products delivered	• Provide referral pathways and follow-up mechanisms as part of assistive technology provision	• Ensure service providers are allocated dedicated time for assistive technology provision • Ensure the availability and uptake of continued training • Ensure availability of supporting personnel, including for stock management

6. Recommended actions

Through dedicated trained personnel and rapid service delivery mechanisms established in health facilities, the AT10 project met the immediate assistive technology needs of over 1485 people as of 31 March 2023. Despite some challenges, and the need for slight adjustments in the project scope, the objectives of the AT10 projects were met.

With the successful conclusion of the first phase of the AT10 project, it is important to identify lessons learned to ensure the provision of assistive technology services during health emergencies and other types of emergency situation. Table 7 presents the main lessons learned from the AT10 project, organized according to the WHO-GATE 5P framework for assistive technology systems strengthening.

Table 7. Lessons learned from the first phase of the AT10 project

People	• Service users may have complex needs and may require more than one assistive product to meet their assistive technology needs; this has implications for the number of products needed and the number of service users benefiting • As much as possible, assistive technology provision should be available to everybody, including but not limited to people with disabilities, older people, people with injuries, IDPs and returnees • Information about assistive technology availability should be disseminated via a variety of communication channels, to ensure all people in need are made aware of the availability of assistive technology and of ways to access it
Policy	• Integrating the assistive technology emergency response with existing health-care services can serve to build health system capacity and help ensure continuity of care for service users beyond the response • Assistive technology systems built during a crisis could inform post-crisis rebuilding of assistive technology and rehabilitation systems and be integrated in them • Assistive technology needs to be included in the health emergency response as a standard practice • Clear task allocation and line of accountability help to identify issues and address them • Continuity of provision during and after an emergency is needed, as part of health-care provision
Products	• The products need to be selected carefully, taking into consideration local needs that are not covered by existing services • When resources are scarce, providing a minimized range of prioritized products reduces training needs for service providers • Product design is important for uptake and acceptability among users • The products met the needs for IDPs and other people affected by the war in Ukraine but, for other country emergencies, the list of products may need to be adapted based on country demographics and met and unmet need in those countries
Provision	• Provision may be delayed due to the unpredictability of infrastructure, affecting logistics • Preparedness plans, including the availability of pre-positioned assistive products (i.e. products available at or near health facilities, in readiness for provision), are needed to address disruption in procurement, delivery or distribution • Provision should be facilitated by respected institutions (e.g. hospitals) that are associated with limited corruption, to engender trust • Product provision through health facilities is important, along with appropriately trained personnel • Mobile and/or home-based provision can be beneficial to reduce access barriers • A wider provision network can ensure more people can benefit

Table 7. (continued)

Personnel	• Trained personnel are needed to facilitate assistive product provision • Training and mentorship are important to ensure personnel have the knowledge and skills for assistive technology provision • Service providers should be allocated dedicated time for assistive technology provision, including training of service users in how to use and maintain their assistive product(s) • Providing a dignified and respectful service is important • Information about referral pathways and available assistive technology services should be provided in a variety of ways to service providers, to ensure maximum access for service users

The recommendations below, based on the lessons learned from this project, can reduce or eliminate barriers that may delay or even endanger the successful implementation of future AT-related projects in emergency situations. Table 8 presents the project's recommendations, organized according to the WHO-GATE 5P framework for assistive technology systems strengthening. These recommendations focus on key elements that should be taken into consideration and adopted when planning for, monitoring and implementing assistive technology projects in crisis situations. However, they are not exhaustive, nor do they aim to provide a step-by-step guide to assistive technology project implementation.

Assistive technology products delivery at health facility

Table 8. Recommendations arising from the first phase of the AT10 project

People	• Enable universal provision to all people who can benefit from assistive technology • Develop clear guidelines about eligible service users • Conduct local needs assessment to consider the complexity of the context, including the presence of multiple functional limitations • Ensure service user involvement in the planning and implementation, including information dissemination, of assistive technology provision
Policy	• Ensure that the inclusion of assistive technology is a key element and a standard practice in the emergency health response • Ensure assistive technology systems inform rebuilding of health systems and are integrated in them, both during and also following health emergencies • Ensure there is a clear task allocation and line of accountability • Ensure there is a clear information policy, so that both service users and service providers are aware of assistive technology provision, how to access it and how to respond to any issues • Develop a repair service
Products	• Ensure the provision of products that respond to local needs • Ensure the provision of well designed products to aid acceptability and use uptake • Ensure the provision of appropriate range, type and size of products, in numbers that correspond to the needs of the population

Table 8. (continued)

Provision	• Build appropriate preparedness plans (including pre-positioning of assistive products) by relevant stakeholders to address disruption in procurement, delivery or distribution • Build contingency into the planned implementation timeline • Consider adding a mobile or home provision service (including delivery), especially for large items and/or for people living away from health facilities providing assistive products • Consider having a wide provision network, covering both urban and rural areas • Ensure provision takes place through well-respected institutions and organizations
Personnel	• Ensure service providers are appropriately trained and can select appropriate products • Ensure service providers have dedicated time allocated to assistive technology provision • Ensure service providers can demonstrate the use of products in various real-life settings • Ensure service providers can offer aftercare, including maintenance and repair • Ensure service providers provide a dignified and respectful service, as this increases service users' satisfaction, leads to more appropriate use and contributes to the programme's visibility and wider reputation • Ensure the availability of personnel to help with logistics, including receiving products, offloading the trucks delivering products to the receiving health facility, organizing the stock, locating, transporting and delivering products to service users

7. Conclusions

Emergency situations create additional strains for health-care services and systems. Especially in the context of war, more attention is often given to trauma care than to rehabilitation and assistive technology services. This – coupled with the fact that people may acquire an injury or impairment or may have lost their assistive products during the war – can lead to the creation of additional rehabilitation and assistive technology needs.

The war in Ukraine has seriously weakened existing health-care services, while at the same time increasing the number of people who, owing to war-related injuries, require rehabilitation and assistive products. Furthermore, people with disabilities, people with chronic conditions, women, older people and displaced people in the country were at a higher risk of not having their assistive technology needs met, especially when services and products were inaccessible.

The AT10 project was implemented to address the increasing assistive technology needs in Ukraine and facilitate the rapid access to essential assistive technology for people with mobility and self-care needs who had been affected by the war. A novel aspect of this project was that the provision of assistive technology was integrated in the emergency response. Despite the short project implementation period and the challenges posed by the ongoing health emergency, the first phase of the AT10 project met its objective. The main strength of the AT10 project was that through a well coordinated process it provided assistive products that met the needs of the population and facilitated rehabilitation, community participation and, ultimately, community development. Service users and providers were overall highly satisfied with the various stages of the project.

The health-care sector of Ukraine has been very resilient and has been responding to the evolving needs of the population. To continue responding to the increased health-care needs of the population, including long-term assistive technology and rehabilitation needs, it is important to further strengthen the health-care sector in Ukraine. This requires strong intersectoral collaboration and technical support. The development of a robust system of assistive technology provision can play an important role in the recovery and strengthening of the health-care sector.

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Annex. Main findings on seeking and obtaining assistive technology

This Annex presents the main findings of the projects in relation to the first two stages of the assistive technology process: seeking and obtaining. At the time of writing of this report, the project had not yet engaged with the last stage, realizing.

Findings related to Stage 1: seeking

Stage 1 – the "seeking" stage – involved two phases: (a) people becoming aware of the possible assistive technology solutions; and (b) people knowing how to find and obtain the appropriate assistive technology to meet their needs.

The rapid Assistive Technology Assessment (rATA) survey led to a good understanding of local needs, as was evidenced by service users who commented on the appropriateness of the products. Initially, it was planned that volunteers (students from health and/or rehabilitation sectors, not necessarily with expertise in the provision of assistive technology) would be provided with online Training in Assistive Products (TAP) training in order to ensure appropriate and safe provision of assistive products. It was later agreed that AT10 kits would be provided by trained personnel from health facilities that had rehabilitation departments. The decision was taken based on discussions with representatives of the Ministry of Health and the Office of the President, taking into account the evolving nature of the war and the uncertainty concerning the availability of volunteer networks. This decision ensured that equipment was provided by specialized personnel, who could exercise their clinical reasoning skills to select, modify, demonstrate and provide training on appropriate assistive products.

TAP participants (learners and mentors) received training in assistive technologies through the TAP platform, and this was positively evaluated by participants. Almost all learners (95%) stated that TAP training was relevant for them and that it had helped them begin or continue their assistive technology role. However, 57% of learners answered that they needed more information (for example, on choosing a wheelchair and information on adaptive dinnerware (noting that this last point was outside the project scope), 59% replied that they needed a little or quite a bit more practice (for instance, with selecting wheelchairs and adjusting them for a specific person and on using orthoses), while 57% answered that they needed a little or quite a bit more mentoring (such as whether they had selected and adjusted the assistive products correctly, information about certain conditions, and selection of assistive products based on users' needs) in order to be able to assess whether they had selected and adjusted the assistive products correctly. Regarding other training that would make them feel more prepared for their assistive role, learners mentioned more information and practice in selecting aids (for instance, additional practical training), as well as methodological manuals and video lessons. Concerning mentors, 87% of them answered that they felt somewhat or very prepared to mentor learners on the TAP training. A total of 87% of participants felt that it was fairly or very important that personnel were provided with mentorship and supervision. A total of 81% of participants commented that the availability of a funding system for primary health services that involved the provision of assistive products was fairly or very important, and that such a policy should be supported (79%). Concerning pre- and post-quiz scores, all participants improved their scores: participants had the highest scores for the modules "Self-care assistive products" (the mean score before the training was 94, after the training 95) and "Introduction to assistive products" (91 before and 94 after the training), and the lowest score for the modules "Wheelchair in emergencies" (66 before and 71 after the training) and "Absorbent products" (73 before and 74 after the training).

Regarding service users, 78% had physical or mental health conditions or illnesses lasting or expected to last for 12 months or more, while almost all (99%) indicated that their illness or condition reduced their ability to carry out day-to-day activities. Out of all users, 91% had difficulties with mobility, 57% with self-care, 3% with speaking or communicating, 3% with remembering, thinking or concentrating, 1% with seeing and 1% with hearing. Problems with hearing, seeing, remembering and communicating were often interconnected; all the respondents who had problems with seeing, hearing, remembering and/or communicating also had problems with mobility and, in the majority of cases, with self-care.

Both service users and service providers reported that information regarding the existence of the AT10 project was not easily available, with several people being made aware of the project through social media and through word of mouth.

Findings related to Stage 2: obtaining

Stage 2 – the "obtaining" stage – involved three phases: (a) service users reaching assistive products and services; (b) service users receiving the assistive technology solutions that met their needs, goals and preferences; and (c) service users receiving follow-up services.

The vast majority of TAP participants believed that health facilities should have multiple roles in assistive technology provision: raising awareness (74%), identifying people who could benefit from assistive technology and referring them to appropriate services (79%), providing simple assistive products (61%), and providing all types of assistive products (70%). A total of 76% of participants believed that it is important that assistive products are provided at an affordable price. All participants agreed that assistive products should be provided at health facilities, even after the current crisis.

The original expected outcome of the AT10 project was for 3900 people to benefit from 3900 products, i.e. it was anticipated that service users would receive one product each. However, it became evident that service users presented multiple functional needs, which required the provision of more than one product so that, by 31 March 2023, 2458 products had been distributed to 1485 people.

Of all service users, 57% were women, with the majority of users (59%) being people aged 60 years and older, 34% people aged 18 to 59 years, and 7% people under 18 years. While initially it was planned that the project would benefit only IDPs, other people also benefitted, including people with disabilities, older people, returnees and people with war-related injury. As a report by the Office of the United Nations High Commissioner for Refugees (2023) shows, a significant proportion of IDPs displaced by the war in Ukraine plan to return to their place of origin.

Of the 1030 people who received assistive products or referrals to another service in the frame of the project from 9 November to 31 December 2022, 821 people (80% of all users) received mobility assistive products, 556 people (54%) received self-care assistive products, and 39 people (4%) received referrals to other services. A total of 54% of users received one assistive product or service from the list, and 46% two or more products/services.

The needs for mobility products of all respondents who had problems with seeing, hearing, remembering and/or communicating and who also had mobility problems were slightly different: for instance, concerning people whose mobility problems were combined with difficulties with seeing, hearing, remembering and/or communicating, there were slightly fewer who received walking sticks and more who received wheelchairs for transportation. Several service users required a combination of products or services: for example, people who received wheelchairs in many cases also received assistive products for self-care and incontinence.

Referrals to other services were interconnected; referrals to inpatient and/or outpatient rehabilitation in most cases were combined with referrals to specialist doctors' consultations and prosthetics/orthotics. Service users who had problems in several domains received referrals to other services more often. In particular, about one third of users who in addition to mobility problems also had problems with seeing and/or hearing and about half of those having difficulties with communicating and/or remembering were provided with such referrals.

Service users reported that products were well designed and "beautiful". Rather than being secondary, this is an important element of assistive products and contributes to acceptability and ultimately to user uptake. Children, in particular, were attracted to wheelchairs with bright colours (yellow), which helped with the acceptability of the product.

The limited bureaucracy facilitated the process of provision, especially for service users who had lost their documentation or who had not yet received a disability registration certificate. While both reaching and obtaining products was seen as straightforward, smooth and well-organized, a lack of information was noted by some service users regarding the process of accessing the AT10 project, and a concomitant lack of information by service providers regarding the project.

The lack of delivery options was challenging for some service users, especially for transporting bigger items. Service providers helped where they could, in the absence of other options, but this was also difficult for them. Service providers noted a lack of logistics support, regarding receiving, storing, managing, locating, transporting and delivering products.

Reference

Office of the United Nations High Commissioner for Refugees (2023). Lives on hold: intentions and perspectives of internally displaced persons in Ukraine. New York: Office of the United Nations High Commissioner for Refugees (https://reliefweb.int/report/ukraine/lives-hold-profiles-and-intentions-internally-displaced-persons-ukraine-february-2023, accessed 20 August 2023).

WHO Country Office and Ministry of Health project coordinators at the WHO warehouse in Kyiv

World Health Organization

European Region

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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